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$$\begin{array}{c} R_1 \\ \vdots \\ CH_2 = C - COO - R_2 - OOC - (CH_2)_4 - CH \\ S - S \end{array}$$
 [I]

in which R_1 represents a hydrogen atom or a methyl group, and R_2 represents a C1–C14 alkylene group which may have a substituent.

DETAILED DESCRIPTION OF THE INVENTION

The present invention provides a novel (meth)acrylic ester derivative having a disulfide cyclic group which is represented by the general formula [I]:

$$\begin{array}{c} R_1 \\ | \\ \text{CH}_2 = \text{C} - \text{COO} - R_2 - \text{OOC} - (\text{CH}_2)_4 - \text{CH}_2 \\ | \\ \text{S} - - \text{S} \end{array}$$

in which R_1 represents a hydrogen atom or a methyl group and R_2 represents a C1–C14 alkylene group which may have a substituent. In the present invention, the term "(meth) acrylate" means either acrylate or methacrylate.

A (meth)acrylic ester derivative represented by the general formula [I] is characterized in that it has a disulfide cyclic group within its structure. A primer or adhesive containing such a compound can solve the problems with the prior art. It exhibits strong and permanent adhesion with precious metals, such as gold, silver, platinum, and palladium, without requiring such pretreatment as electrodeposition of tin or oxidative treatment to be given to the precious metals. Further, the primer or adhesive has good storage stability and involves no generation of objectionable odors during the preparation thereof or when in use.

Because of these characteristic features thereof, (meth) acrylic ester derivatives [I] of the invention can be used as a primer component or an adhesive composition component and are therefore applicable to dental or medical adhesives as well as to jewelry and other industrial adhesives.

In the general formula [I], R_1 represents a hydrocarbon group having a carbon number of 1–3. A preferred R_1 is a hydrogen atom or a methyl group. R_2 represents an alkylene group having a carbon atom number of 1–30, preferably 1–14, more preferably 2–12, which may have a substituent. Substituent groups which may be bonded to R_2 include an unsaturated group or alkyl group, or an alkyl group bonded with a phenyl group.

Compounds represented by the general formula [I] may be specifically exemplified by those shown below.